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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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09/509,789

03/30/2000

HANS-JOSEF STERZEL

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07/28/2004

KEIL & WEINKAUF

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WASHINGTON, DC 20036

EXAMINER

DOVE, TRACY MAE

ART UNIT

PAPER NUMBER

1745

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 09/509,789 | Applicant(s) STERZEL ET AL. | |
| | Examiner Tracy Dove | Art Unit 1745 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21,22 and 25-27 is/are pending in the application.
- 4a) Of the above claim(s) 21,22,25 and 27 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

This Office Action is in response to the communications filed on 2/24/04 and 5/21/04. Applicant's arguments have been considered, but are not persuasive. Claims 21, 22 and 25-27 are pending. Claims 21, 22, 25 and 27 are withdrawn. Claim 26 is rejected in view of the prior art of record. This Action is made FINAL.

Election/Restrictions

Note Applicant has elected the species represented by formula IIIa (claim 26). Examiner confirmed this in a telephone interview with Herb Keil on 4/24/02.

Claims 21, 22, 25 and 27 are directed to an invention that is distinct from the invention originally elected for the following reasons: the elected species, formula IIIa, was deleted from claim 21 in the amendment filed 3/3/03. Since applicant has received an action on the merits for the originally elected invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 21, 22, 25 and 27 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

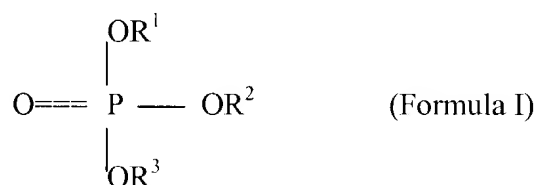
A person shall be entitled to a patent unless –

(c) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claim 26 is rejected under 35 U.S.C. 102(e) as being anticipated by Narang et al., US 5,830,600.

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Narang teaches nonflammable/self-extinguishing electrolytes for batteries. Novel fire-retardant electrolyte compositions comprise a lithium salt dissolved in a fire-retardant solvent selected from phosphates, phospholanes, cyclophosphazenes, silanes, fluorinated carbonates, fluorinated polyethers and mixtures thereof. See abstract. Narang teaches batteries comprising an anode, a cathode and a fire-retardant electrolyte composition including a lithium salt dissolved in a solvent, wherein the solvent is a phosphate having the structure as shown in Formula I (see col. 3, lines 63-col. 4, lines 10):



wherein R1, R2 and R3 may be C1-C6 alkyl terminally substituted with 0-3 halogen atoms and containing 0-3 ether linkages. The structure of instant claim 26 is encompassed by Formula I of Narang. Narang specifically discloses the compound recited by instant claim 26 in col. 7, lines 57-64. This section of Narang teaches that tris-(methoxyethyl) phosphate (formula of instant claim) may be used as the phosphate for the electrolyte solvent. Furthermore, Narang teaches a specific example using tri-(methoxyethyl)phosphate (TMEP) as the solvent and LiPF₆ as the electrolyte salt of the electrolyte of a lithium cell (Table 2). The battery of Narang may be a Li_xC₆/electrolyte/LiCoO₂ type battery (lithium ion battery). Narang teaches preferred lithium salts include compounds of the formula Li-A, wherein A is an anion which may be BF₄ or PF₆ (col. 10, lines 17-27).

Thus the claim is anticipated.

Response to Arguments

Applicant's arguments filed 2/24/04 have been fully considered but they are not persuasive.

Applicant argues the Narang reference provides the opportunity for the selection of a number of different solvents and does not provide the required specificity in order to anticipate claim 26. However, Narang discloses a specific example using the solvent of the claimed invention. Applicant further argues Narang results in “picking and choosing” in order to anticipate the claimed invention. Examiner disagrees with Applicant’s interpretation of the Narang reference. In col. 3, lines 63-col. 4, lines 14 Narang teaches the solvent of the instant invention. Furthermore, col. 7, lines 57-64 and Table 2 gives specific examples of electrolytes using TMEP (formula of instant claim). Thus, one is not selecting from “many solvents”, as asserted by Applicant.

Regarding the teaching of the lithium salt by Narang, Narang is not limited to the examples or preferred teachings. Note that Narang teaches in col. 10, lines 19-27 that “*preferred* lithium salts include compounds of the formula Li-A, wherein A is an anion which may be...BF₄...PF₆...and mixtures thereof”. Both LiBF₄ and LiPF₆ are common lithium salts for lithium secondary batteries. See Linden, Handbook of Batteries, page 36.15. Note the list of twelve salts (col. 10, lines 21-22) disclosed by Narang is not considered to be selecting from “many electrolyte salts” as asserted by Applicant.

Applicant argues due to the phrase “consisting essentially of” in claim 26, the claimed invention is not anticipated by the Narang reference. Applicant argues that while Narang teaches adding a CO₂-generating agent is optional, the disclosure points out advantages of the battery

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containing the agent. Applicant states Narang is “ambiguous” regarding the necessity of the CO₂-generating agent because it teaches the advantage of adding the compound to one of ordinary skill in the art.

Applicant’s assertion that the Narang reference is “ambiguous” regarding the necessity of the CO₂-generating agent is illogical. Specifically, Narang states the electrolyte composition optionally contains a CO₂-generating agent. Narang clearly states that “optional” or “optionally” means that the subsequently described circumstance may or may not occur, and that the description includes instances in which said circumstance occurs and instances in which it does not (col. 7, lines 15-24). Furthermore, Tables 1 and 2 provide multiple examples wherein the electrolyte does not contain a CO₂-generating agent and multiple examples wherein the electrode does contain a CO₂-generating agent. Thus, Narang is not ambiguous regarding the addition of a CO₂-generating agent. Furthermore, the claims do not contain any limitations regarding cycle life. Applicant’s argument that one of ordinary skill in the art would never use a lithium-ion battery without the CO₂-generating compound is flawed. First, Narang clearly teaches the CO₂-generating compound is optional and, second, Applicant’s claimed invention recites a lithium-ion battery without a CO₂-generating compound.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 16, 2004


Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700